

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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SECURITY INFORMATION

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COUNTRY	East Germany	REPORT	
SUBJECT	Research on Color Films and Filters at Farbenfabrik Wolfen	DATE DISTR.	31 August 1953
		NO. OF PAGES	5
DATE OF INFO.		REQUIREMENT	50X1
PLACE ACQUIRED		REFERENCES	50X1-HUM

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(Note: Washington Distribution Indicated By "X"; Field Distribution By "#")

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50X1-HUM

COUNTRY : East Germany

DATE DISTR. 24 JUL 53

SUBJECT : Research on Color Films and Filters at  
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NO. OF PAGES 4

PLACE  
ACQUIREDNO. OF ENCLS  
(LISTED BELOW) 50X1-HUMDATE  
ACQUIREDSUPPLEMENT TO  
REPORT NO.

DATE OF

THIS IS UNEVALUATED INFORMATION

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SOVIETS DISMANTLE FARBENFABRIK AT WOLFEN

1. [ ] at the close of World War II from April to July 1945, [ ] difficulty in returning to the Farbenfabrik at Wolfen [ ] because of the disruption in transportation at the time. [ ]

[ ] about mid-July, the Soviets had taken over and had assumed complete control of all personnel. There were a few chemists, however, who had left earlier [ ]

[ ] there were several hundred Soviets in the concern, all in uniforms of their Army. About 20-30 of these people were chemists who held various ranks.

2. One of the early phases of the Soviet control of the plant consisted of dismantling many installations. Some of those [ ] were the newly built gypsum-sulphuric acid installation; the phosgene unit; a urea type stabilizer unit, the so-called "ST Unit"; the installation for the concentration of nitric acid; the Hekow unit; and the metachrome dye unit. After all removable equipment had been packed in crates, and shipped to some place in the USSR, the remaining empty buildings were destroyed, mostly by explosive demolition. The Ostwald ammonia oxidation unit, however, was left intact because of the need for nitric acid for fertilizer production in East Germany. These dismantling operations were under the supervision of a Soviet, Colonel REWOKATOW, the commander-in-chief of the Soviets in the factory. [ ] the equipment was taken to the USSR for actual use, [ ]

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as war booty, and not simply to deprive the East Zone of these production facilities. As it turned out later, some [redacted] 50X1-HUM  
[redacted] recognized some of the same equipment in Rubeshnoye, but 50X1-HUM  
it was not in usable condition. Most of it, they said, had either been damaged in transit or corroded beyond redemption. They also had heard that some of the pieces had been seen at Liskhimstrol, not far from Rubeshnoye [redacted] 50X1-HUM

3. The actual research work at Wolfen during this period was directed toward the goal of producing dyes for color film and color filters. The production of color film utilizing these dyes was carried out at Filmfabrik Wolfen [redacted]

[redacted] a rather effective isolation had 50X1-HUM  
already begun to be established within the laboratories.

4. The various filter dyes [redacted] included neutral gray; 50X1-HUM  
naphthol green; naphthol scarlet B; rapid filter yellow and tartrazine O. The work involved the development of the dye through the laboratory stage to the pilot scale since the quantity requirements for these materials could be met in this manner.

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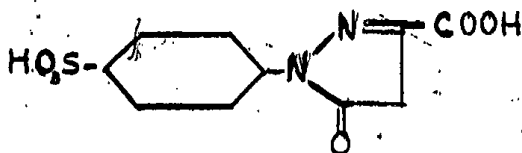
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#### SHORTAGE OF COMPONENTS

5. Although a number of the components were available at Wolfen, many had to be sought [redacted]

[redacted] As time went on, more and more of these needed items from the West became unavailable and [redacted] had to devise means of producing them [redacted] or at least purifying the compounds available [redacted] in crude or technical grades. Two 50X1-HUM  
examples that may be cited were the need to purify metaxylidine via the acetate salt, and the complete production of "Carboxypyrazole Acid IV".



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In time it was possible [redacted] to produce all of the components necessary for the production of color film in the nearby Filmfabrik. [redacted] did not work on cyanine dyes or infra-red film components, nor [redacted] any infra-red work being done in either factory.

6. All of the dyes produced were tested either by dyeing wool samples and examining the results under standard conditions, or by determining transmission curves of dyed film samples, or both. The references used were the desired dyes purchased in the West for comparison purposes. In cases of multiple dye combinations, these often had to be simplified because certain components were unavailable from the West, or they were particularly difficult to produce because of the lack of intermediates.

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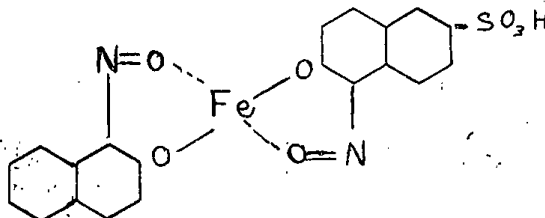
COLOR FILM PRODUCTION

7. Of the dyes mentioned above [ ] the 50X1-HUM preparations are given below.

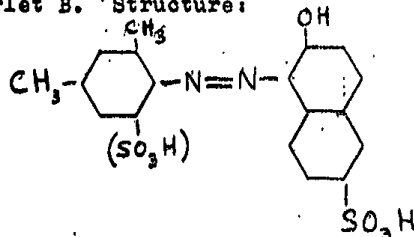
- a. Neutral Gray This is a very complicated mixture of simpler dyes, which were blended to give a dye suitable for neutral density filters and step-wedges. [ ]

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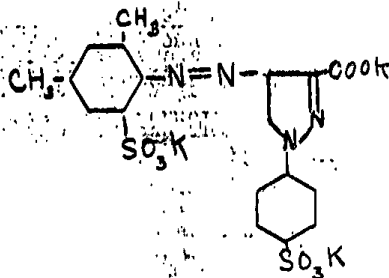
- b. Naphthol Green This was prepared by nitrosation, using sodium nitrite and hydrochloric acid, of Schaeffer's acid [ $\beta$ -naphthol-6-sulphonic acid] and its subsequent complexing with iron II salts to form a dark green dye, also good for wool. The probable structure is:



- c. Naphthol Scarlet B This dye was prepared by the diazotization of m-xylydine and the subsequent coupling with a salt of Schaeffer's acid. With a sulphonic acid group ortho to the original amino group, the resulting dye is called Brilliant Scarlet B. Structure:



- d. Rapid Filter Yellow This was readily prepared by diazotizing m-xylydine-5-sulphonic acid and coupling with "Carboxypyrazole acid IV". The product was isolated and used as the triple potassium salt. Structure:



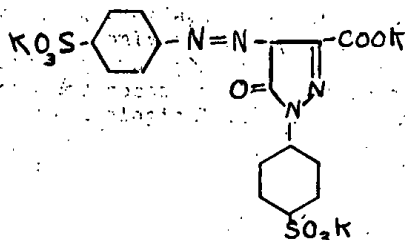
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- e. Tartrazine Q. Coupling of diazotized sulphanilic acid with: "Carboxypyrazole acid IV" produced this dye. Structures:



8. The Soviets did not in any way contribute toward the objectives of color film production but, on the contrary, had us teach them in utmost detail the various steps and procedures we used. Initially, only one to two kilogram batches were made, then the larger quantities were made in the pilot plant. There were no changes made in the normal German practices in the the semiplant scale. The Soviets were, in general, good students, but with the exception of one woman chemist, LAPTEVA, none of them did any laboratory work.
9. In addition to the obvious goal of color film production, the Soviets had a second objective which became apparent [redacted] in the fall of 1946. This objective constituted a study of the personnel of the laboratories to determine which chemists and specialists would be considered most useful in conducting technological research in the USSR.

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